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OCT 16 2006

Docket No.
SHL.0099C1US

In Re Application Of: Gary L. Rytlewski et al.

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/709,322	04-28-2004	Daniel P. Stephenson	35204	3672	3321

Invention: Subsea Intervention

COMMISSIONER FOR PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed on
08-07-2006

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Gary L. Rytlewski et al. § Art Unit: 3672
Serial No.: 10/709,322 §
Filed: April 28, 2004 § Examiner: Daniel P. Stephenson
For: Subsea Intervention § Atty. Dkt. No.: 22.1391CNT
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APPEAL BRIEF PURSUANT TO 37 C.F.R § 41.37

Sir:

The final rejection of claims 1-5, 7-12, 15-27, and 29-35 is hereby appealed.

I. REAL PARTY IN INTEREST

The real party in interest is the Schlumberger Technology Corporation.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF THE CLAIMS

Claims 1-5, 7-12, 15-27, and 29-35 have been finally rejected and are the subject of this appeal.

Claims 6, 13, 14, and 28 have been cancelled.

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IV. STATUS OF AMENDMENTS

No amendment after final has been submitted.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element.

Independent claim 1 recites an apparatus for use with a subsea well, comprising:

a carrier line spool (Fig. 3:41) having a carrier line (Fig. 3:44) that is adapted to be positioned underwater (Spec., ¶ [0031]); and

a stack in a structure separate from the carrier line spool, the stack adapted to operatively couple to subsea wellhead equipment (Fig. 3:22), and the carrier line attached to the stack, the stack having equipment (Fig. 3:34) to lower the carrier line into the subsea well (Spec., ¶ [0032]).

Independent claim 15 recites an apparatus for use with a subsea well, comprising:

a carrier line spool (Fig. 6:41) having a carrier line (Fig. 6:44) that is adapted to be positioned underwater and to be operatively coupled to intervention equipment attached to subsea wellhead equipment (Fig. 6:22; Spec., ¶ [0041]); and

an underwater marine unit (Fig. 6:104C) adapted to operatively couple the carrier line to the intervention equipment attached to the subsea wellhead equipment in response to wireless signals (Spec., ¶¶ [0030], [0043], [0044]).

Independent claim 17 recites a method of intervention with a subsea well, comprising:

- positioning a carrier line spool (Fig. 3:41) underwater (Spec., ¶ [0030]);
- attaching a stack to subsea wellhead equipment (Fig. 3:22), the stack in a structure separately located from the carrier line spool (Spec., ¶¶ [0030], [0031]);
- deploying a carrier line (Fig. 1:44) of the carrier line spool into the stack (Spec., ¶ [0032]); and
- lowering the carrier line into the subsea well (Spec., ¶ [0031]).

Independent claim 24 recites a method of intervention with a subsea well, comprising:

- positioning a carrier line spool (Fig. 3:41) underwater (Spec., ¶ [0031]);
- attaching a stack to subsea wellhead equipment (Fig. 3:22), the stack in a structure separately located from the carrier line spool (Spec., ¶ [0031]);
- coupling a carrier line (Fig. 3:44) of the carrier line spool to the stack (Spec., ¶ [0032]);
- attaching intervention equipment separate from the carrier line to the subsea wellhead equipment (Spec., ¶ [0031]); and
- lowering the carrier line into the subsea well using the intervention equipment (Spec., ¶ [0031]).

Independent claim 29 recites a method of intervention with a subsea well, comprising:

- positioning a carrier line spool (Fig. 6:41) underwater (Spec., ¶ [0041]);
- using an underwater marine unit (Fig. 6:104C) to couple a carrier line of the carrier line spool to subsea intervention equipment; and
- communicating commands to the underwater marine unit using wireless signals to control the coupling of the carrier line to the subsea intervention equipment (Spec., ¶¶ [0030], [0043], [0044]).

Independent claim 30 recites a subsea intervention method for use with subsea wellhead equipment, comprising:

assembling modules containing intervention equipment (Spec., ¶ [0035]);
and

connecting, using an underwater marine unit (Fig. 6:104C), the assembled intervention equipment to the subsea wellhead equipment (Fig. 6:22); and

attaching one or more buoyancy tanks to at least one of the modules (Spec., ¶¶ [0041], [0042]).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A. Claims 1-5, 9, 10, 17, 18, 20-26, And 33-35 Rejected Under 35 U.S.C. § 103 Over U.S. Patent Application Publication No. 2002/0134552 (Moss) In View Of WO 83/02798 (Galerne).**
- B. Claims 7 And 19 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Galerne And U.S. Patent No. 6,209,634 (Avakov).**
- C. Claims 8 And 27 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Galerne And U.S. Patent No. 5,657,823 (Kogure).**
- D. Claims 11 And 12 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Galerne And U.S. Patent No. 5,676,209 (Reynolds).**
- E. Claims 15, 16, And 29 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Galerne And U.S. Patent No. 6,125,080 (Sonnenschein).**
- F. Claims 30-32 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Kogure.**

VII. ARGUMENT

The claims do not stand or fall together. Instead, Appellant presents separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-headings as required by 37 C.F.R. § 41.37(c)(1)(vii).

A. Claims 1-5, 9, 10, 17, 18, 20-26, And 33-35 Rejected Under 35 U.S.C. § 103 Over U.S. Patent Application Publication No. 2002/0134552 (Moss) In View Of WO 83/02798 (Galerne).

1. Claims 1-5, 9, 10, 17, 18, 20-26, and 33-35.

Independent claim 1 was rejected under § 103 as obvious over the asserted combination of Moss and Galerne. It is respectfully submitted that the Examiner has not established a *prima facie* case of obviousness.

It is well established law that the “PTO has the burden under section 103 to establish a *prima facie* case of obviousness[, and it] can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art will lead that individual to combine the relevant teachings of the references.” *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

The Examiner has clearly not satisfied its burden of establishing a *prima facie* case of obviousness. In effect, the Examiner has identified disparate elements of the prior art references, using impermissible hindsight benefiting from the teachings of the disclosure of the present invention to piece together such disparate elements. As the Federal Circuit has consistently warned, hindsight reconstruction cannot be used “to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *Id.* at 1075.

In the present case, the Examiner identified the frame 29 of Moss as containing the carrier line spool recited in claim 1. As conceded by the Examiner, Moss does not disclose the carrier line spool being separate from the stack. 5/4/2006 Office Action at 2. However, the Examiner cited Galerne as disclosing “that a spool in a subsea environment may be placed on the sea floor near the wellhead, and not necessarily within a stack on the wellhead.” *Id.* at 5. In making the rejection, the Examiner specifically *ignored* that the reel 39 in Galerne is for a

high-pressure hose 25 that is located subsea. The *hose* 25 of Galerne is a high-pressure hydraulic hose for activating a blowout preventer. Galerne, 6:1-4. The outlet of the *hose* 25 is connected to the blowout preventer through a valve 31 and fitting 33. Galerne, 6:5-7. In other words, what is disclosed in Galerne is use of a reel 39 to provide a *hose* 25 that is attached to a blowout preventer for delivering hydraulic pressure for activating the blowout preventer. There is no suggestion whatsoever by Galerne of a carrier line spool having a carrier line, where the carrier line spool is separate from the stack adapted to operatively couple to subsea wellhead equipment, and where the stack has equipment to lower the carrier line into the subsea well. All Galerne would have suggested to a person of ordinary skill in the art is that a high-pressure hydraulic *hose* 25 can be attached to a blowout preventer from an underwater reel 39 for activating the blowout preventer. The high-pressure hydraulic *hose* 25 of Galerne is completely different from the coiled tubing/wireline 21 depicted in Fig. 2 of Moss.

Since Galerne teaches a reel 39 for a *hose* 25 that is connected to a blowout preventer for activating the blowout preventer, rather than a reel having a carrier line that is to be lowered into a subsea well, as recited in claim 1, Galerne clearly would not have suggested a modification of Moss to achieve the claimed subject matter.

Moreover, it is important to note that Moss clearly teaches the importance of enclosing the intervention system (including a reel 22) inside a space frame (29 in Fig. 2 of Moss) to provide structural support for the components as they are transported, deployed, retrieved, or repaired. Moss, ¶ [0019]. As further stated by Moss, the complete intervention system is run and operated with no protective enclosure required. *Id.* Thus, what Moss would have suggested to a person of ordinary skill in the art is the importance of integrating everything, including the reel for the carrier line, into a unitary frame (29 in Fig. 2 of Moss) for easier use (including

transportation, deployment, retrieval, and repairing, as taught in ¶ [0019] of Moss). This specific teaching of Moss cannot be ignored when making an obviousness analysis. Each reference must be considered in its entirety, including passages of the references that would tend to lead a person of ordinary skill in the art away from the claimed subject matter. The fact that the Examiner has ignored specific passages of the prior art references in making the obviousness rejection is a further indication that impermissible hindsight has been used.

In view of the foregoing, it is clear that there existed no motivation or suggestion to combine the teachings of Moss and Galerne to achieve the claimed subject matter. Moreover, it is clear that even if the combination of Moss and Galerne was proper, the hypothetical combination of Moss and Galerne does not teach or suggest all elements of claim 1. Specifically, Moss does not disclose or suggest a carrier line spool (separate from a stack in a structure separate from the carrier line spool) having a carrier line to be lowered by equipment in the stack into the subsea well. Galerne similarly does not teach or suggest this feature, as Galerne discloses a reel for a hose to be connected to a blowout preventer, not for lowering into a subsea well.

In view of the foregoing, it is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 1 and its dependent claims. *See* M.P.E.P. § 2143 (8th ed., Rev. 5), at 2100-126.

Independent claims 17 and 24 (and their dependent claims) are similarly allowable.

Reversal of the final rejection of the above claims is respectfully requested.

B. Claims 7 And 19 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Galerne And U.S. Patent No. 6,209,634 (Avakov).

1. Claims 7 and 19.

In view of the defective rejection of base claims 1 and 17 over Moss and Galerne, it is respectfully submitted that the obviousness rejection of claims 7 and 19 (which depend from claims 1 and 17, respectively) over Moss, Galerne, and Avakov is also defective. Therefore, reversal of the final rejection of the above claims is respectfully requested.

C. Claims 8 And 27 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Galerne And U.S. Patent No. 5,657,823 (Kogure).

1. Claims 8 and 27.

In view of the defective rejection of base claims 1 and 17 over Moss and Galerne, it is respectfully submitted that the obviousness rejection of claims 8 and 27 (which depend from claims 1 and 17, respectively) over Moss, Galerne, and Kogure is also defective. Therefore, reversal of the final rejection of the above claims is respectfully requested.

D. Claims 11 And 12 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Galerne And U.S. Patent No. 5,676,209 (Reynolds).

1. Claims 11 and 12.

In view of the defective obviousness rejection of base claim 1 over Moss and Galerne, it is respectfully submitted that the obviousness rejection of claims 11 and 12 (which depend from claim 1) over Moss, Galerne, and Reynolds is also defective. Therefore, reversal of the final rejection of the above claims is respectfully requested.

E. Claims 15, 16, And 29 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Galerne And U.S. Patent No. 6,125,080 (Sonnen Schein).

1. Claims 15, 16, and 29.

Independent claim 15 was rejected as being obvious over Moss, Galerne, and Sonnen Schein. Appellant respectfully submits that a *prima facie* case of obviousness has not been established with respect to claim 15. Claim 15 recites an apparatus that has an underwater marine unit adapted to operatively couple the carrier line (part of a carrier line spool) to intervention equipment attached to subsea wellhead equipment, in response to wireless signals.

A first point of error in the obviousness rejection is that in view of the fact that no motivation or suggestion existed to combine Moss and Galerne, there also did not exist any motivation or suggestion to combine Moss, Galerne, and Sonnen Schein.

Moreover, the Examiner conceded that Moss in view of Galerne does not disclose an underwater marine unit adapted to operatively couple the carrier line to the intervention equipment attached to the subsea wellhead equipment in response to wireless signals.

As taught by Moss, a “standard” remote operated vehicle (ROV) is provided in which an umbilical is used for controlling an intervention system. Moss, ¶¶ [0015], [0017]. In contrast, Sonnen Schein is focused on underwater wireless communications using personal devices carried by a diver. Sonnen Schein, 6:24-35. Sonnen Schein does mention in passing that the communications techniques for personal devices can be modified for underwater ROVs and AUVs. Sonnen Schein, 13:48-56. However, there is no suggestion in this passage, or anywhere else within Sonnen Schein, of modifying the teachings of Moss and Galerne to provide an underwater marine unit that operatively couples the carrier line to intervention equipment attached to subsea wellhead equipment *in response to wireless signals*. In fact, the focus of Sonnen Schein is to provide a “reliable system which provides communication between *divers*, or

more specifically, a paging system for transferring personal messages in a network of two or more divers.” Sonnenschein, 1:66-2:3.

Merely citing to a reference that teaches wireless communications does not satisfy the PTO’s burden of establishing that a person of ordinary skill in the art would have been motivated to modify Moss and Galerne to provide the claimed subject matter, namely an underwater marine unit adapted to operatively couple the carrier line to the intervention equipment attached to the subsea wellhead equipment in response to wireless signals. Sonnenschein is completely silent on the use of wireless signals to control an ROV to operatively couple a carrier line to intervention equipment attached to subsea wellhead equipment.

Therefore, no motivation or suggestion existed to combine the reference teachings. It is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 15 (and its dependent claims).

Independent claim 29 is allowable over the cited references for similar reasons as claim 15.

Therefore, reversal of the final rejection of the above claims is respectfully requested.

F. Claims 30-32 Rejected Under 35 U.S.C. § 103 Over Moss In View Of Kogure.

1. Claims 30-32.

Independent claim 30 was rejected as being obvious over Moss and Kogure. Appellant respectfully submits that a *prima facie* case of obviousness has not been established. The Examiner conceded that Moss fails to disclose attaching one or more buoyancy tanks to at least one of the modules containing intervention equipment. 5/4/2006 Office Action at 4. However, reliance was made on Kogure as teaching this feature. *Id.*

As stated in Moss, a goal of its proposed invention is the elimination of a riser to the surface. Moss, ¶¶ [0012]-[0013]. On the other hand, Kogure is directed to a riser that includes a riser stabilizing system and supplementary buoyancy tanks fixedly positioned to the upper end of the riser 16. Kogure, 3:14-18; 3:25-26, 4:31-33. Thus, while Moss teaches the elimination of a riser, Kogure teaches the exact opposite -- a specific type of riser with equipment to support ease of use of the riser. Combining the teachings of Moss and Kogure would defeat the goals and objective of both references. A basic requirement of establishing a *prima facie* case of obviousness is that a proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference. *Id.*, § 2143.01, at 2100-129. Therefore, there can be no motivation or suggestion to combine the teachings of Kogure and Moss.

The Examiner stated that the teachings of Kogure regarding a riser and riser stabilization system can be ignored, and that “the only portion of the Kogure et al. document that needs to be considered is the buoyancy tanks.” 5/4/2006 Office Action at 6. Ignoring significant parts of the teachings of Kogure and Moss to provide the obviousness rejection based on Moss and Kogure is error. As stated by the M.P.E.P., a prior art reference “must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.” M.P.E.P. § 2141.02, at 2100-124.

A person of ordinary skill in the art would have been led by Kogure to use buoyancy tanks with a riser, which is specifically at odds with the teachings of Moss regarding the elimination of a riser. Therefore, this is objective evidence that a person of ordinary skill in the art would not have been motivated to combine the teachings of Moss and Kogure in the manner

proposed by the Office Action. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 30, and its dependent claims.

Reversal of the final rejection of the above claims is respectfully requested.

VIII. CONCLUSION

In view of the foregoing, reversal of all final rejections and allowance of all pending claims is respectfully requested.

Respectfully submitted,

Date: 10-10-2006



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APPENDIX OF APPEALED CLAIMS

The claims on appeal are:

1 1. An apparatus for use with a subsea well, comprising:
2 a carrier line spool having a carrier line that is adapted to be positioned
3 underwater; and
4 a stack in a structure separate from the carrier line spool, the stack adapted to
5 operatively couple to subsea wellhead equipment, and the carrier line attached to the stack, the
6 stack having equipment to lower the carrier line into the subsea well.

1 2. The apparatus of claim 1, wherein the carrier line spool comprises a coiled tubing
2 spool.

1 3. The apparatus of claim 1, wherein the carrier line spool is selected from the group
2 consisting of a wireline spool and slickline spool.

1 4. The apparatus of claim 1, wherein the carrier line spool is adapted to be
2 positioned on the sea floor separate from the stack.

1 5. The apparatus of claim 1, wherein the carrier line spool comprises a coiled tubing
2 spool, wherein the equipment to lower the carrier line into the subsea well comprises an injector
3 head adapted to drive coiled tubing from the coiled tubing spool.

1 7. The apparatus of claim 5, wherein the stack further comprises a gooseneck to
2 provide support for coiled tubing reeled from the coiled tubing spool.

1 8. The apparatus of claim 5, further comprising at least one buoyancy tank attached
2 to an assembly containing the injector head.

1 9. The apparatus of claim 1, further comprising a carousel containing a plurality of
2 intervention tools, the intervention tools engageable by the carrier line.

1 10. The apparatus of claim 9, wherein the carousel is rotatable underwater to enable
2 switching of tools for connection to the carrier line.

1 11. The apparatus of claim 1, wherein the stack contains an emergency disconnect
2 package.

1 12. The apparatus of claim 11, further comprising a connector connected between the
2 emergency disconnect package and the subsea wellhead equipment.

1 15. An apparatus for use with a subsea well, comprising:
2 a carrier line spool having a carrier line that is adapted to be positioned
3 underwater and to be operatively coupled to intervention equipment attached to subsea wellhead
4 equipment; and
5 an underwater marine unit adapted to operatively couple the carrier line to the
6 intervention equipment attached to the subsea wellhead equipment in response to wireless
7 signals.

1 16. (Original) The apparatus of claim 15, wherein the wireless signals comprise
2 acoustic wave signals.

1 17. A method of intervention with a subsea well, comprising:
2 positioning a carrier line spool underwater;
3 attaching a stack to subsea wellhead equipment, the stack in a structure separately
4 located from the carrier line spool;
5 deploying a carrier line of the carrier line spool into the stack; and
6 lowering the carrier line into the subsea well.

1 18. The method of claim 17, wherein deploying the carrier line comprises deploying
2 the carrier line through an injector head in the stack.

1 19. The method of claim 18, wherein deploying the carrier line comprises deploying
2 the carrier line through a gooseneck to the injector head.

1 20. The method of claim 17, wherein the carrier line is lowered into the subsea well to
2 perform an intervention operation.

1 21. The method of claim 20, further comprising raising the carrier line after the
2 intervention operation is completed and switching tools connected to the carrier line.

1 22. The method of claim 21, wherein switching tools comprises actuating a carousel
2 system having chambers containing a plurality of tools.

1 23. The method of claim 22, further comprising engaging the carrier line with another
2 tool after actuating the carousel system.

1 24. A method of intervention with a subsea well, comprising:
2 positioning a carrier line spool underwater;
3 attaching a stack to subsea wellhead equipment, the stack in a structure separately
4 located from the carrier line spool;
5 coupling a carrier line of the carrier line spool to the stack;
6 attaching intervention equipment separate from the carrier line to the subsea
7 wellhead equipment; and
8 lowering the carrier line into the subsea well using the intervention equipment.

1 25. The method of claim 17, further comprising using an underwater marine unit to
2 deploy the carrier line into the stack.

1 26. The method of claim 17, further comprising lowering, using an underwater
2 marine unit, the carrier line spool to a position on a sea floor.

1 27. The method of claim 26, further comprising attaching buoyancy tanks to the
2 carrier line spool to enable the underwater marine unit to carry the carrier line spool underwater.

1 29. A method of intervention with a subsea well, comprising:
2 positioning a carrier line spool underwater;
3 using an underwater marine unit to couple a carrier line of the carrier line spool to
4 subsea intervention equipment; and
5 communicating commands to the underwater marine unit using wireless signals to
6 control the coupling of the carrier line to the subsea intervention equipment.

1 30. A subsea intervention method for use with subsea wellhead equipment,
2 comprising:
3 assembling modules containing intervention equipment; and
4 connecting, using an underwater marine unit, the assembled intervention
5 equipment to the subsea wellhead equipment; and
6 attaching one or more buoyancy tanks to at least one of the modules.

1 31. The method of claim 30, further comprising attaching one or more buoyancy
2 tanks to the assembled intervention equipment.

1 32. The method of claim 30, wherein assembling the modules comprises assembling a
2 carrier line spool as part of the intervention equipment.

1 33. The apparatus of claim 1, further comprising an underwater marine unit to attach
2 intervention equipment separate from the carrier line to the subsea wellhead equipment, the
3 intervention equipment comprising the stack.

1 34. The apparatus of claim 33, wherein the stack comprises a frame.

1 35. The method of claim 24, wherein the intervention equipment includes the stack.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.